2015

INFO 357-01 Telecommunications and Networking

Adekunle Okunoye
Xavier University

INFO 357 – 01 TELECOMMUNICATIONS AND NETWORKING

COURSE SYLLABUS

CLASS LOCATION AND TIME: HAI 15, Wed (6:00 – 8:30pm), Spring 2015

INSTRUCTOR:

Name	Dr. Adekunle Okunoye
Email:	okunoye@xavier.edu
Office Location:	Room 207 Smith Hall
Office Hours:	**Monday** 12:00 Noon – 2:00pm **Wednesday: 12**:00 Noon – 2:00pm Or by appointment
Telephone:	513 745 3052 (office)

COURSE DESCRIPTION

The understanding of data communications and networking is imperative for adequate functioning of organizations. This is due to the convergence of computing, telecommunications and broadcasting and the growing applications of information technology in businesses and organizations. The knowledge of these key areas of information systems also becomes essential for competitive advantage. This course combines the basic technical concepts of data communications, telecommunications and networking with the managerial aspects and practical applications.

The global proliferation and continuous expansion of the networks and the advent of digital economy raises concern about privacy and security. This course will cover the fundamental issues that relate to privacy, computer forensics and network security and how organizations can minimize network and data communication risks. The course examines the fundamentals of networking while presenting the Open Systems Interconnection (OSI) layered architecture model. These will be approached with series of lectures, assignments and projects (individual and group), presentations, class discussions, and guest speaker presentations.

MISSION

At Williams College of Business, *"we educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition"*. In this course, we provide students with an understanding of the contemporary issues in telecommunications and networking and how these could be used to further the developments and productivity of an organization. The students will also learn how the people and the society are affected by these issues and how ethical standards could be maintained in a dynamic and competitive networked organizational environment.

COURSE OBJECTIVES and STUDENT LEARNING OUTCOMES

At the end of the course, the students should be able to:

- understand the basic concepts of data communications and networking in the context of business situations
- have broad knowledge of technical aspects of data communications and networks and how they would benefit organizations
- identify various security risks to a network and ways to minimize them
- understand the current trends in telecommunications and networking and the implications for businesses and organizations.
- Understand the basic concepts of information assurance and its ethical and general implications in network economy

PREREQUISITES
Basic knowledge of microcomputers
(It is assumed that students have a basic knowledge of the Internet and network applications)

REQUIRED TEXTS AND OTHER MATERIALS

Text (Required)
Author: Ciccarelli P. et al
Title: Networking Basics, 2012
Publisher: John Wiley and Sons Inc. ISBN: 978-1-118-07780-1
Edition: 2nd Edition

Other Materials(required)

Online Learning Environment on Canvas - https://canvas.xavier.edu/login

COURSE POLICIES AND REQUIREMENTS

Attendance and participation: You are expected to attend each class meeting and laboratory sessions. Each **unexcused** absence will be recorded as a zero score for that day in the Attendance/Participation area. The interactive approach of the class requires your active participation and this will be reflected in the Attendance/Participation portion of the grade distribution. Class participation will involve required reading assignments, group case preparation, and introduction by students of current issues related to the chapter material. For any group activity, you must be present to receive the group grade. If you are absent you will receive a zero for that group activity.

Assignments, Quizzes and Exam: All assignments are due at the beginning of class on the due days (given in the course schedule). Unapproved late submission of assignments **will be not accepted**. Failure to turn in an assignment results in zero. Approved late submission will not be extended beyond 7 calendar days after the due date. **There will be no make-up exam and quizzes**. Alternative provision may be made for those who missed the exams and /or quizzes due to emergency and for those who has informed the instructor ahead of the time.

Academic Dishonesty: Unless otherwise specified (e.g., group projects or presentations), all assignments should be done individually. If you are caught using other student's work at any point in the exercises or any part of the course will result in an F for the course and additional discipline according to the policy of Xavier University.

TESTS, PRESENTATIONS AND EXAMS

- There will be two major quizzes at the dates to be announced
- There will be a Midterm and a Final exam based on the main reading textbook.
- There will be 12 lab exercises (Available on books website)
- There will a group project/presentation

LABS
We will organize several laboratory sessions (as time permits) that will provide a hands-on introduction to some of the concepts discussed in the class. The lab sessions could also be used to try out the case assignments and exercises.

GRADING
Your final grade will be determined as listed below and explained further in a separate section of this syllabus. Each student is required to read the instructions for all assignments at the beginning of the course or when they are posted on Canvas. Any student who is unclear about any instruction should ask questions in class or see the professor immediately. You are expected to keep track of your own scores and class standing. ***For all group works, peer evaluation sheets will be used in combination with instructor observations to determine an individual's participation level and subsequent grading. It is important that all members of the team fully participate in the project.*** You can also contact the instructor about the details of your scores before the final grading.

Grading Distribution

Assignments (see additional information in below section)	**Grade %**	**Due Date**	**Scale**			
Quizzes	15	See Class Schedule	A	95-100	C+	77-79
Lab Assignments/Exercises (Group)	10	See Class Schedule	A-	90-94	C	73-76
Examinations	50	See Class Schedule	B+	87-89	C-	70-72
Attendance/Participation	**10**		B	83-86	D	60-69
Group Project/Presentations	15		B-	80-82	F	Below 60
Total	100					

NOTE
We live in dynamic times. Your exposure to information technology in this course should strongly support this fact. Events may dictate that changes be made to what appears above and/or to the course schedule and assignments. Every attempt will be made to minimize any change, but I reserve the right to make changes if necessary. Advance notice will, of course, be given to the students. And, the current versions of the course Canvas pages are to be taken as official. It is the student's responsibility to work with the current versions of these pages. It is the instructor's responsibility to keep the versions current.

Introduction

Individual assignment 1: Introduce yourself to the instructor by posting to the Introduction thread on Canvas. Be sure to include your work background, your major and minor(s), and also indicate your ability to build a web page. Otherwise, tell what you think he needs to know about you. **Due by Friday January 16, 2015**. See course syllabus for my email address.

Quizzes (15%)
The quizzes will cover the chapters discussed before the quiz (see schedule). All the quizzes are closed-book.

Lab Assignments/Exercises (Group) (10%)

There will be twelve lab assignments / exercises that are based on real-world networking scenarios. This requires access to computers running Windows Server 2008 (and/or Windows XP). Some of the assignments might also involve working with communications cable, hubs, test equipment and other networking components. The assignments can be submitted on the assignment sheet (provided by instructor), or on separate pages.

Attendance and Participation (10%)
Regular attendance is required for success in this class. Your participation will be determined by how well you respond to questions and by the extent of your contribution to all discussions. Any student who must miss class due to an unavoidable circumstance should see the professor in person as soon as possible.

Examinations (50%)
A midterm and final exam will be given covering the material in this book. Exams are expected to be completed within two hours. Each exam will be weighted the same. The final exam is not comprehensive.

Group Project/Presentations (15%)

The goal of this project is to create opportunity for you to study and report the telecommunications and networking systems of a real organization. You can use the organization where you work or choose another organization. You can contact me if you need any assistance in selecting the organization and about the scope of the project. The project includes preparation of a comprehensive 5-10 pages report (single-spaced, word-processed with one inch margins) and 10-15 minutes presentation of the summary of the report. You are also required to create a website for the project. The website should contain the personal information about each member of the group, the project proposal, the detailed report and the presentation slides. More details will be provided in class.

The report

The first part of the report should describe the details of the organization's network technology. This report should cover both hardware and software components of the network. The entire network layout should also be presented diagrammatically in the report. The report should specify the possible direction of growth of the network with the consideration to the recent changes in network technology e.g. how the wireless communication technology could change the current network? Could they extend the network through modern networking technology etc. The second part of the report should focus on the utilization of the network (e-commerce, Intranet etc) and the how it affects the operations of the organization. It should cover the network management policies and procedures in this organization and the access control and network security. All the problems you observe or that could arise with the network should be included in the report. The conclusion should include recommendation for improvement to the network and how it could be better utilized for organizational processes.

The proposal

Prepare a one page overview of the project that includes the names of group members and email address, organization name, name of contact at organization. The proposal is due for submission through Canvas on February 20, 2015

Tentative Class Schedule (INFO 357 -01)

Wks	Date	Class Topics	Assignments/Readings	Remarks
1	Wednesday, January 14, 2015	Introduction to the class & Overview of Networking and Telecommunications	Chapter 2	
2	Wednesday, January 21, 2015	Network Standards and Models Labs (1 and 2)	Chapters 3	
3	Wednesday, January 28, 2015	Network Protocols	Chapters 4 & 5	
4	Wednesday, February 04, 2015	Network Architectures and Topologies	Prepare for Quiz 1 (Revise chapters 1-5)	Projects 1-2 due for submission
5	Wednesday, February 11, 2015	Quiz 1 (Chapters 1-4) Labs (3 and 4)	Chapters 6	
6	Wednesday, February 18, 2015	Network Media and Devices	Chapter 7	
7	Wednesday, February 25, 2015	Labs (5 and 6) Mid Semester Exam		Projects 3-4 due for submission
8	Wednesday, March 04, 2015	Spring Break		
9	Wednesday, March 11, 2015	Labs		Projects 5-6 due for submission
10	Wednesday, March 18, 2015	Lab (7) Transmission Control Protocol/Internet Protocol	Chapter 8 and 9	
11	Wednesday, March 25, 2015	Network Servers and Services Fundamentals Enterprise Networking Services	Prepare for Quiz 2 (Revise Chapters 6-9)	Project 7 due for submission
12	Wednesday, April 01, 2015	Lab (8) Quiz 2 (Chapters 6 - 9)	Chapter 10	
13	Wednesday, April 08, 2015	Wireless, Remote, and Wide Area Networking Labs (9 and 10)	Chapters 11 and 12	Project 8 due for submission
14	Wednesday, April 15, 2015	Lab (11) and Lab (12)		Projects 9-10 due for submission
15	Wednesday, April 22, 2015	Network Management and security	Group Project Due for Submission	
16	Wednesday, April 29, 2015	Presentations		Projects 11 and 12 due for submission
17	Wednesday, May 06, 2015	Final Exam (Comprehensive - Labs and Concepts)		